

History of NPDES Program

Clean Water Act

The National Pollutant Discharge Elimination System (NPDES) originally began as part of the 1972 Clean Water Act (CWA). The U.S. Environmental Protection Agency (USEPA) initially targeted point-source pollution (industrial plants, wastewater sewage plants) with sampling, monitoring, water treatment, improved material handling, better manufacturing technology, etc. This portion of the NPDES program has been very effective at improving water quality in our streams and rivers.

As more data was gathered, it was learned that most pollution comes from nonpoint sources where it is difficult to identify the source and responsible party. Nonpoint pollution sources include: soil erosion, aerially-deposited particles, roadside trash, leaves and sticks, automotive fluids from leaking vehicles onto roadways and parking lots, products of incomplete combustion, food processing wastes, and transportation spills of chemicals and other pollutants. In 1987 the Clean Water Act was amended to include provisions for reducing nonpoint pollution sources.

NPDES Program

The NPDES permit program is managed by the Kentucky Division of Water (KDOW) under the Department for Environmental Protection, with federal oversight maintained by USEPA.

Under the storm water portion of the NPDES program, operators of large, medium and regulated small municipal separate storm sewer systems (MS4s) require authorization to discharge pollutants under an NPDES permit. A municipal separate storm sewer system means a conveyance or system of conveyances, including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains.

The Phase I Rules promulgated in 1990 requires operators of medium and large MS4s, that is, those that generally serve populations of 100,000 or greater, to implement a storm water management program as a means to control polluted discharges from these MS4s.

Phase II Storm Water Program

The Phase II Rules promulgated in 1990 requires operators of small MS4s to obtain a NPDES permit and develop a storm water management program designed to prevent harmful pollutants from being washed by storm water runoff into the MS4 or from being dumped directly into the MS4 and then discharged into local waterbodies. The Phase II Rule automatically covers on a nationwide basis all small MS4s located in "urbanized areas" as defined by the Bureau of the Census. An urbanized area is a land area comprising one or more places and the adjacent densely settled surrounding area, "urban fringe", that together have a residential population of at least 50,000 and an overall population density of at least 1,000 people per square mile.

Operators of Phase II MS4s are required to design their programs to:

- Reduce the discharge of pollutants to the “maximum extent practicable” (MEP);
- Protect water quality;
- Satisfy the appropriate water quality requirements of the Clean Water Act.

Implementation of the MEP standard will typically require the development and implementation of best management practices (BMPs) and the achievement of measurable goals.

The Phase II Rule defines a small MS4 stormwater management program as a program comprising six elements that, when implemented in concert, are expected to result in significant reductions of pollutants discharged into receiving waterbodies.

The six MS4 program elements, termed “minimum control measures,” are outlined below.

Public Education and Outreach Distributing educational materials and performing outreach to inform citizens about the impacts polluted stormwater runoff discharges can have on water quality.

Public Participation/Involvement Providing opportunities for citizens to participate in program development and implementation, including effectively publicizing public hearings and/or encouraging citizen representatives on a stormwater management panel.

Illicit Discharge Detection and Elimination Developing and implementing a plan to detect and eliminate illicit discharges to the storm sewer system (includes developing a system map and informing the community about hazards associated with illegal discharges and improper disposal of waste).

Construction Site Runoff Control Developing, implementing, and enforcing an erosion and sediment control program for construction activities that disturb 1 or more acres of land (controls could include silt fences and temporary stormwater detention ponds).

Post-Construction Runoff Control Developing, implementing, and enforcing a program to address discharges of post-construction stormwater runoff from new development and redevelopment areas. Applicable controls could include preventative actions such as protecting sensitive areas (e.g., wetlands) or the use of structural BMPs such as grassed swales or porous pavement.

Pollution Prevention/Good Housekeeping Developing and implementing a program with the goal of preventing or reducing pollutant runoff from municipal operations. The program must include municipal staff training on pollution prevention measures and techniques (e.g., regular street sweeping, reduction in the use of pesticides or street salt, or frequent catch-basin cleaning).